

Title (en)

PLASMA-CATALYZED, THERMALLY-INTEGRATED, REFORMER FOR FUEL CELL SYSTEMS

Title (de)

PLASMA-KATALYSIERTER WÄRMEINTEGRIERTER UMFORMER FÜR BRENNSTOFFZELLENSYSTEME

Title (fr)

DISPOSITIF DE RÉFORMAGE PAR PLASMA-CATALYSE THERMIQUEMENT INTÉGRÉ POUR SYSTÈMES DE PILES À COMBUSTIBLE

Publication

EP 2016378 B1 20171101 (EN)

Application

EP 07776838 A 20070508

Priority

- US 2007011039 W 20070508
- US 79886306 P 20060508

Abstract (en)

[origin: WO2007133511A2] A reformer (302) is disclosed in one embodiment of the invention as including a channel (702) to convey a preheated plurality of reactants containing both a feedstock fuel and an oxidant. A plasma generator (402) is provided to apply an electrical potential to the reactants sufficient to ionize one or more of the reactants. These ionized reactants are then conveyed to a reaction zone (404) where they are chemically transformed into synthesis gas containing a mixture of hydrogen and carbon monoxide. A heat transfer mechanism is used to transfer heat from an external heat source to the reformer (302) to provide the heat of reformation.

IPC 8 full level

C01B 3/34 (2006.01); **C01B 3/38** (2006.01); **H01M 8/06** (2016.01); **H01M 8/0612** (2016.01); **H01M 8/086** (2016.01); **H01M 8/12** (2016.01); **H01M 8/14** (2006.01)

CPC (source: EP US)

C01B 3/342 (2013.01 - EP US); **C01B 3/384** (2013.01 - EP US); **H01M 8/0618** (2013.01 - EP US); **H01M 8/0643** (2013.01 - US); **H01M 8/086** (2013.01 - US); **H01M 8/12** (2013.01 - US); **H01M 8/145** (2013.01 - US); **C01B 2203/0233** (2013.01 - EP US); **C01B 2203/0445** (2013.01 - EP US); **C01B 2203/062** (2013.01 - EP US); **C01B 2203/066** (2013.01 - EP US); **C01B 2203/0805** (2013.01 - EP US); **C01B 2203/0861** (2013.01 - EP US); **C01B 2203/0866** (2013.01 - EP US); **H01M 2008/1293** (2013.01 - US); **H01M 2008/147** (2013.01 - US); **H01M 2250/405** (2013.01 - EP US); **H01M 2300/0051** (2013.01 - US); **H01M 2300/0074** (2013.01 - US); **Y02B 90/10** (2013.01 - EP US); **Y02E 60/50** (2013.01 - EP US); **Y02P 20/129** (2015.11 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC MT NL PL PT RO SE SI SK TR

DOCDB simple family (publication)

WO 2007133511 A2 20071122; WO 2007133511 A3 20080403; EP 2016378 A2 20090121; EP 2016378 A4 20120111; EP 2016378 B1 20171101; US 2007259228 A1 20071108; US 2015044588 A1 20150212; US 2016149245 A1 20160526; US 8728180 B2 20140520; US 9240605 B2 20160119; US 9819036 B2 20171114

DOCDB simple family (application)

US 2007011039 W 20070508; EP 07776838 A 20070508; US 201414242421 A 20140401; US 201514948613 A 20151123; US 74594207 A 20070508